

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTOR(S): Weber, Paul R., et. al.
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TITLE: Semi-Frozen Food Product Carbonator
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SERIAL NO.: 09/639,868 ART UNIT: 1724
PAPER: Substitute Amendment

Commissioner for Patents
Washington, D.C. 20231

Sir:

In the above referenced case in response to the Examiner's final office action therein dated 12/23/2002, please enter the following:

IN THE CLAIMS:

Claims 1-6 (canceled).

Claim 7 (new) A gas infusion system for dissolving a gas into solution in a liquid, comprising:
a tank having a top end, a bottom end and a sidewall extending there between defining a tank interior, the tank having a liquid inlet, a gas inlet, and a liquid outlet, the liquid inlet for connection to a source of the liquid, the gas inlet for connection to a pressurized source of the gas for admitting thereof into the tank interior so that the gas goes into solution into the liquid, and the outlet for delivering the liquid having the gas in solution therein to a dispensing means,
a level sensor mounted to the tank and having an internal sensing portion in the tank interior for sensing the level of the fluid therein and having a contact end external of the tank for connection to a control means for regulating admission of the combined liquid and the gas into the tank interior as a function of the sensed level of the

combined fluid therein and the level sensor level sensing portion including a fluid contact plate extending there from at an angle transverse to a direction of flow of liquid entering into the tank interior through the fluid inlet and the fluid inlet and fluid contact plate positioned so that the entering fluid contacts the fluid contact plate for diffusing any force of the flow thereof for minimizing any disruptive contact thereof with the operation of the flow sensing portion and/or for facilitating better dissolving of the gas into solution in the liquid.

Claim 8 (new) The gas infusion system as defined in claim 7, and the gas inlet having a diffuser in fluid communication therewith and located within the tank interior at a level generally below a predetermined minimum liquid level so that gas entering the tank interior is finely mixed with the combined liquid.--

Claim 9 (new) The gas infusion system as defined in claim 7, and the liquid outlet having a tube portion extending there from within the tank interior and terminating closely adjacent the tank bottom end and including a baffle plate positioned within the tank interior above the tank bottom end and below a predetermined minimum liquid level and the plate including a first hole for the liquid outlet tube portion to extend there through and the baffle plate having a plurality of secondary holes.--

Claim 10 (new) The gas infusion system as defined in claim 7, and where the liquid is water and the gas is carbon dioxide.

Claim 11 (new) The gas infusion system as defined in claim 8, and the liquid outlet having a tube portion extending there from within the tank interior and terminating closely adjacent the tank bottom end and including a baffle plate positioned within the tank interior above the tank bottom end and below a predetermined minimum liquid level and the plate including a first hole for the liquid

outlet tube portion to extend there through and the baffle plate having a plurality of secondary holes.

Claim 12 (new) The gas infusion system as defined in claim 11, and where the liquid is water and the gas is carbon dioxide.

Claim 13 (new) The gas infusion device as defined in claim 7, and the fluid inlet integral with the fluid sensor.